

CLAIMS:

1. A woodworking machine comprising:

a support structure having a cutting zone;

5 a cutting tool supported by the support structure and adapted to move at least partially into the cutting zone to cut a workpiece;

a motor adapted to drive the cutting tool;

a detection system adapted to detect contact between a person and the cutting tool;

and

10 a reaction system adapted to stop motion of the cutting tool into the cutting zone upon detection of contact between a person and the cutting tool by the detection system.

2. The machine of claim 1, where the motor rotates the cutting tool as the

15 cutting tool moves at least partially into the cutting zone, and where the reaction system is adapted to stop the rotation of the cutting tool.

3. The machine of claim 2, where the reaction system includes a first brake

20 mechanism adapted to stop the movement of the cutting tool into the cutting zone, and a second brake mechanism adapted to stop the rotation of the cutting tool.

4. The machine of claim 1, further comprising operative structure adapted to couple the cutting tool to the support structure, where the operative structure is selectively movable relative to the support structure to move the cutting tool into the cutting zone, and where the reaction system is adapted to stop movement of the operative structure relative to the support structure upon detection of contact between a person and the cutting tool by the detection system.

5. The machine of claim 4, where the reaction system includes a pawl mounted on the support structure and selectively movable into contact with the operative structure to grip the operative structure and prevent relative movement between the operative structure and the support structure.

6. The machine of claim 4, where the reaction system includes a pawl mounted on the operative structure and selectively movable into contact with the support structure to grip the support structure and prevent relative movement between the support structure and the operative structure.

7. A woodworking machine comprising:

a cutter adapted to move translationally relative to a workpiece to be cut;

a detection system adapted to detect contact between a person and the cutter; and

a reaction system adapted to interrupt the translational movement of the cutter

5 upon the detection of contact between the person and the cutter by the detection system.

8. The woodworking machine of claim 7, where the reaction system is

10 adapted to interrupt the translational movement of the cutter by stopping that movement.

9. The woodworking machine of claim 7, where the cutter is adapted to rotate,

and further comprising a brake system to stop the rotation of the cutter upon the detection

15 of contact between the person and the cutter by the detection system.

10. A woodworking machine comprising:

support structure adapted to support workpieces;

a cutting tool adapted to cut workpieces supported by the support structure;

operative structure adapted to support the cutting tool and coupled to the support

5 structure to move translationally relative to a workpiece to be cut;

a detection system adapted to detect one or more dangerous conditions between a person and a determined portion of the machine; and

a reaction system operable on the operative structure to interrupt the translational movement of the operative structure relative to the support structure upon the detection of
10 at least one of the dangerous conditions by the detection system.

11. The machine of claim 10, where the determined portion of the machine is the cutting tool.

12. The machine of claim 10, further comprising a guard disposed adjacent the cutting tool, and where the determined portion of the machine is the guard.

13. The machine of claim 10, where the reaction system includes a braking mechanism coupled to the support structure and selectively movable to engage the operative structure.

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14. The machine of claim 10, where the reaction system includes a braking mechanism coupled to the operative structure and selectively movable to engage the support structure.

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15. A method of minimizing potential injuries from a woodworking machine, where the woodworking machine includes at least one cutting tool selectively movable into a cutting region to cut workpieces in the cutting region, the method comprising:

detecting one or more dangerous conditions between a person and the cutting tool;
and
stopping the movement of the cutting tool into the cutting region.

16. The method of claim 15, where the step of detecting includes detecting
20 accidental contact between the person and the cutting tool.